National Climatic Data Center

DATA DOCUMENTATION

FOR

DATA SET 6146 (DSI-6146)

NCEP/CPC 4KM GLOBAL (60N-60S) IR DATASET

December 6, 2002

National Climatic Data Center
151 Patton Ave.
Asheville, NC 28801-5001 USA

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Table of Contents

1. Abstract: The "4 km" global (60N - 60S) merged IR data exist on a rectangular latitude/longitude grid. Each file contains 2 records: the 1st for the "on the hour" images (":00") and the 2nd for the "on the half hour" images (":30"). The data & time of each file is determined by the filename: merg_yyyymmddhh_4km-pixel, where

yyyy = year
mm = month
dd = day
hh = hour

Each record is a 9896 x 3298 FORTRAN array of IR brightness temperatures that have been scaled to fit into 1-byte by subtracting "75" from each datum. Therefore it is necessary for the user to add a value of "75" to each data value when using the data.

The orientation of the data in the array is Eastward from 0.0182E (center of gridbox) and the grid increment in the east-west direction is 0.036378335 degrees of longitude. The data proceed from North -> South beginning at 59.982N (center of gridbox) and the grid increment is 0.036383683 degrees of latitude in the north-south direction.

The beginning scan times for each satellite, in terms of minutes after the hour, are as shown below.

":00" column refers to hour + 0 minutes;
":30" " " to hour + 30 minutes

Satellite	:00	:30
GMS (centered @ 140E longitude)	No data	32
**GOES-8 (east; 75W)	45	15
**GOES-10 (west; 135W)	00	30
Meteosat-7 (Greenwich)	00	30
Meteosat-5 (63E longitude)	00	30

** GOES full-disc views are guaranteed only at 00Z, 03Z,..., 21Z. For images NOT at these time, the GOES data may be assembled from various regional subsets of a full-disc view due to image scheduling of the GOES satellites.

2. Element Names and Definitions:

yyyy	= year of the data
mm	= month of the data
dd	= day of the data
hh	= hour of the data
4km_pixel	= data value of the IR brightness temperature. Users should add 75 to the value before using the data.

3. Start Date: 19990914

4. **Stop Date**: Ongoing.

5. **Coverage**: near global

a. Southernmost Latitude: 60S
b. Northernmost Latitude: 60N
c. Westernmost Longitude: 180W
d. Easternmost Longitude: 180E

6. **How to Order Data**:

Ask NCDC's Climate Services about the cost of obtaining this data set.
Phone: 828-271-4800
FAX: 828-271-4876
E-mail: **NCDC.Orders@noaa.gov**

These data are also available via anonymous ftp: **ftp.ncep.noaa.gov/**

Each file contains 2 records: the 1st is for the "on the hour" the 2nd for "on the 1/2 hour" data. The files are compressed via a standard UNIX compress.

7. **Archiving Data Center**:

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, NC 28801-5001
Phone: (828) 271-4800.

8. **Technical Contact**:

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5200 Auth Rd., Room 605
Camp Springs, MD 20746-4304
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Fax: (301) 763-8395

9. **Known Uncorrected Problems**: Due to the voluminous nature of these data, historical data cannot be provided. IR data from the various geostationary satellites are not scanned at the same time. While the nominal spatial resolution is 4 km, the data at locations far from nadir are considerably less resolved. Functionally, the data at such locations is essentially repeated among adjacent gridboxes.

GMS data are only available every hour thus missing data will appear in the

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region between Meteosat-5 (positioned at 63E) and GOES "west" which is at 135W.

Full-disc images from GOES are guaranteed every 3 hrs only (00Z, 03Z, ... 21Z). At the non-3hr times, various subsets of GOES views are acquired and pieced together for the global product. This is the reason for relatively frequent missing data in the GOES domain.

10. Quality Statement: The original ("raw") data for the GOES, GMS, Meteosats 5 & 7 were obtained via the McIDAS system, remapped to lat/lon gridded files and merged to form a global dataset. A zenith angle correction has been applied to the data to correct for erroneously cold IR temperatures for locations that are far from the satellite nadir position. At present no intercalibration correction has been applied to the data

11. Essential Companion Datasets: None.

12. References: No information provided with original documentation.